ABSTRACT

The present invention relates to a system for visualizing images of the sea-bottom with acceptable resolution up to a few hundred meter depths, and which may serve as well to image the bottom of other water volumes such as lakes or rivers. The system uses the combined operation of pulsed illumination with a light beam, an aiming/expansion system for the illuminating light beam, a detector of light reflected from the bottom, an optical device coupled to the detector which selectively amplifies/blocks the light entering the detector, an electronic system for exploration of a portion of the volume bottom and for synchronism of the system, and an electrical signal processing unit which generates an image of the volume bottom that can be displayed in a conventional TV monitor. The system discriminates the light reflected from the sea bottom against the light backscattered by the intermediate volume of water.